

REMARKS

The Applicant requests reconsideration of the rejection.

Claims 1-5 and 14-17 are now pending, including new claims 14-17.

The Examiner objected to the Information Disclosure Statement filed June 27, 2003 as failing to include a copy of listed documents "draft-ietf-pim-dm-new-v2.01.txt" and "RFC 2362". In addition, the Asaeda and RADIUS documents cited in the same Information Disclosure Statement have been crossed out on the Form PTO-1449 supplied by the Applicant. The Applicant requests consideration and initialization on the attached copies of the Form PTO-1449, however, because copies of each of these documents were submitted and received by the USPTO, as indicated on the date-stamped mailroom receipt, a copy of which accompanies this paper. Replacement copies of the document are also being submitted with this paper, in the event that the USPTO file does not contain them.

The Examiner requires a new title, which has been provided.

Further, the Examiner objected to the disclosure as containing an embedded hyperlink or other form of browser-executable code. Specifically, the Examiner refers to a URL provided on page 5, lines 12-13 of the specification, although no embedded hyperlink or other code was included. To avoid the objection, the URL has been removed.

The Examiner objected to claims 3-5 and 13, as containing the informalities noted on pages 3-4 of the Office Action. The claims have been amended to address the Examiner's concerns.

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by Boers, U.S. Patent Publication No. 2004/0022244 (Boers). Claims 2-3 and 5 stand

rejected under 35 U.S.C. §103(a) as being unpatentable over Boers in view of Jain, U.S. Patent Publication No. 2003/0079040 (Jain). The Applicant traverses as follows.

Claim 1 has been amended to add the subject matter of dependent claim 2, which was rejected over Boers in view of Jain as noted above. Specifically, Jain was cited as teaching that the source of the multicast group is determined on the basis of an address of the multicast client node and an address of the multicast group to which the joining or leaving request has been sent from the multicast client node.

However, while Jain is directed to a method and routing system for forwarding multicast packets, Jain employs a lookup key to query a forwarding memory that returns an outgoing port index, which points to one or more outgoing ports that can receive a multicast packet. If the packet contains a content payload, a packet processor 104 examines the packet to determine forwarding information FID regarding the disposition of the packet. The FID includes a destination port, port mirror requirement, packet type, VLAN handling, prioritization, multicast group membership and/or like features. If the packet is a control message (or the content packet contains a control message), the packet processor 104 forwards the control message to a discovery list 110 or CPU 112. Jain discloses two types of control message: a hello message and a join/prune message.

Of particular interest is the join/prune message, which contains a join set and a prune set. The join set lists the groups that receivers have requested, and the prune set lists the groups that are not required by receivers. If a join/prune message is detected, forwarding engine 118 transfers the join/prune message from packet processor 104 to CPU 112, which processes the join/prune message to construct or

update one or more FID tables, which include a source-group table and a forwarding table and/or a session table. The source-group table includes various data about the members of a multicast group, such as a source address, destination address, and an outgoing port index associated with the source and/or destination address. The CPU 112 processes the join/prune message to update these entries in the source-group table, and creates an entry in an outgoing port LUT 108 to associate the outgoing port index to the receiving incoming I/O port 102.

The forwarding table comprises one or more forwarding entries that include a destination MAC address and an outgoing port index. CPU 112 updates the forwarding entries if the join/prune message is related to an existing destination MAC address.

Fig. 3 illustrates a flowchart representing the general operational flow of control for intelligently forwarding multicast content packets in shared source or explicit source distribution multicast operational modes. At step 303, an I/O port 102 receives a packetized content signal. At step 306, packet processor 104 examines the destination address of the signal to determine whether the packet is a unicast packet or a multicast packet. For multicast processing, at step 309, packet processor 104 derives or reads a lookup key. If switch 100 is operating with shared source distributions, packet processor 104 extracts a shared source lookup key. Packet processor 104 reads or derives a destination MAC address from the content packet, and the destination MAC address is used as the shared source lookup key. However, if switch 100 is operating with explicit source distributions, packet processor 104 extracts an explicit source lookup key from the content packet, which

is based on the source IP address, destination IP address, protocol type derived from the multicast packet, and the incoming I/O port 102 that received the packet.

At step 312, packet processor 104 utilizes the lookup key to query a FID table to query either a forwarding table or a session table. If no match is found, at step 315, the content packet is delivered to CPU 112 for further processing, whereupon CPU 112 queries the source-group table using the destination group address and, if available, the destination source address to locate a corresponding outgoing port index. If no match is found, control passes to step 317, at which CPU 112 identifies the outgoing I/O port 102 that currently services the destination router or other network device associated with the destination address from the content packet.

Thus, while Jain discloses a method for intelligently forwarding multicast packets, it seems that Jain (and therefore, Boers in view of Jain) provides such teachings without addressing the claimed requirement that the designated address of the multicast source server of the multicast group is determined on the basis of an address of the multicast client node and an address of the multicast group to which the first request of joining or leaving was sent from the multicast client node. That is, the combination of Boers and Jain fails to teach a translation unit for translating a first request of joining or leaving a multicast group which is sent from one of the multicast client nodes that cannot designate an address of a multicast source server of the multicast group, into a second request of joining or leaving the multicast group with designating an address of a multicast source server of the multicast group, wherein the designated address is determined as noted above. Therefore, claim 1, as amended, is not obvious in view of the combination of Boers and Jain.

New independent claim 14 is directed to patent forwarding equipment comprising a translation unit for translating an any-source type of request of joining or leaving a multicast group which is sent from one of the multicast client nodes into a source-specific type of joining or leaving a source-specific multicast group, wherein an address of the multicast source server of the source-specific multicast group is determined on the basis of an address of said one of said multicast client nodes and an address of the multicast group to which the any-source type of request of joining or leaving was sent from the multicast client node. Accordingly, this claim is also patentably distinguishable from the art of record.

Because the independent claims are patentably distinguishable as demonstrated above, it necessarily follows that the dependent claims are also patentable. Therefore, for brevity, a separate explanation of the patentability of the features recited in the dependent claims will not be made at this time.

The Applicant notes, with thanks, the indication of allowable subject matter in dependent claim 4. However, the Applicant asserts that patentability of claim 1 as argued above, and thus will not rewrite dependent claim 4 in independent form at this time.

In view of the foregoing amendments and remarks, the Applicant requests reconsideration of the rejection and allowance of the claims.

To the extent necessary, the Applicant petitions for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to

the deposit account of Mattingly, Stanger, Malur & Brundidge, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. NIT-378).

Respectfully submitted,

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